

NOMENCLATURAL ADJUSTMENTS AND COMMENTS IN ABRONIA AND ACLEISANTHES (NYCTAGINACEAE)

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ABSTRACT

A new combination is made for A Flora of the Chihuahuan Desert Region and for Flora of North America North of Mexico in the now more broadly constructed *Acleisanthes* (Nyctaginaceae): ***Acleisanthes lanceolata*** (Wooton) R.A. Levin var. ***megaphylla*** (Fowler & B.L. Turner) Spellenb. & J. Poole, comb. nov. This is based on evidence published recently by Levin (2000) showing that neither *Acleisanthes* nor *Selinocarpus* as traditionally treated is monophyletic, but together they form a well-defined clade in the Nyctaginaceae. We also provide a short review of the literature showing that *Commicarpus somalensis* (Chiov.) Lebrun & Stork is correctly an *Acleisanthes* (sensu lato), based on *Selinocarpus somalensis* Chiov. Due to need for consistency in level of infraspecific rank in treatments in Flora of North America North of Mexico *Abronia umbellata* Lam. subsp. *breviflora* (Standl.) Munz is recombined as ***Abronia umbellata*** Lam. var. ***breviflora*** (Standl.) L.A. Galloway, comb. et stat. nov.

RESUMEN

Se hace una combinación nueva para "A Flora of the Chihuahuan Desert Region" y para "Flora of North America North of Mexico" en el género *Acleisanthes*, ahora construido mas ampliamente: ***Acleisanthes lanceolata*** (Wooton) R.A. Levin var. ***megaphylla*** (Fowler & B.L. Turner) Spellenb. & J. Poole, comb. nov. Esta combinación resulta de la evidencia recientemente publicada por Levin (2000), demostrando que ni *Acleisanthes* ni *Selinocarpus*, como se han tratado tradicionalmente, son monofiléticos, pero juntos forman un clado bien definido en las Nyctaginaceae. También, ofrecemos citas bibliográficas declarando que *Commicarpus somalensis* (Chiov.) Lebrun & Stork es actualmente una *Acleisanthes* (sensu lato), basado en *Selinocarpus somalensis* Chiov. A causa de la necesidad de consistencia a nivel de categorías infraspecíficas en los tratamientos de "Flora of North America North of Mexico" *Abronia umbellata* Lam. subsp. *breviflora* (Standl.) Munz se ha re combinado como ***Abronia umbellata*** Lam. var. ***breviflora*** (Standl.) L.A. Galloway, comb. et stat. nov.

INTRODUCTION

The most recent taxonomic revisions of *Acleisanthes*, *Ammocodon*, and *Selinocarpus* have maintained the genera as distinct (Fowler & Turner 1977; Smith 1976). *Acleisanthes* (7 spp.) and *Selinocarpus* (9 spp.) have been considered distinct genera since their inception; *Ammocodon* (1 sp.) was originally described as a *Selinocarpus* (Torrey 1859). All are from arid or semi-arid regions in southwestern United States and northern Mexico, mostly on the Chihuahuan Desert or adjacent semi-arid closely allied floristic areas, except for *S. somalensis* Chiov., which occurs in northeastern Africa.

Recently Levin (2000), through the use of nuclear and chloroplast genes, demonstrated that *Acleisanthes* and *Selinocarpus* formed a well defined clade within the Nyctaginaceae, but individually the genera were not monophyletic. Levin (2002) then transferred those species traditionally recognized as *Selinocarpus* and *Ammocodon*, and which she recognized as valid taxa, to *Acleisanthes*. Levin did not recognize varieties in her study, considering them insignificant for her work (pers. comm. to J. Henrickson, 2002). Although the winged fruits of *Selinocarpus* and *Ammocodon* are conspicuous in their differences from the round-ribbed fruits of *Acleisanthes*, it might be inferred from Willson and Spellenberg (1977) that a change from ribbed to winged fruit is not difficult. As discussed by Levin and others, most *Acleisanthes* are herbaceous, whereas many *Selinocarpus* are suffrutescent or woody. *Ammocodon* is herbaceous. All genera produce cleistogamous flowers. In addition, *Selinocarpus diffusus* is very difficult to distinguish from *A. wrightii* vegetatively.

NOMENCLATURE

For an upcoming volume of Flora of North America North of Mexico and for A Flora of the Chihuahuan Desert Region, we are adopting Levin's interpretation of this portion of the Nyctaginaceae, recognizing those taxa traditionally called *Ammocodon* or *Selinocarpus* as *Acleisanthes*. Turner (in Turner et al. 2003) has also adopted an expanded concept of *Acleisanthes* and has made some nomenclatural transfers there. Levin (2002) made only species level nomenclatural transfers. An easily missed error occurred in her work when specific epithets were transferred in the masculine from *Selinocarpus* [masculine] to *Acleisanthes* [feminine]. Corrections necessary are considered orthographic and will be made in upcoming treatments.

Acleisanthes lanceolata (Wooton) R.A. Levin var. ***megaphylla*** (Fowler & B.L. Turner) Spellenb. & J. Poole, comb. nov. BASIONYM: *Selinocarpus lanceolatus* Wooton var. *megaphyllus* Fowler & B.L. Turner, Phytologia 37:181. 1977. TYPE: MEXICO. CHIHUAHUA: Jurassic gypsum ca. 15 mi SW of Estacion Moreon on Rio Conchos Lake Road, Sierra de la Monillas, 25 May 1971, Powell 2105 (HOLOTYPE: LL; ISOTYPE: TEX!).

Acleisanthes megaphylla (Fowler & B.L. Turner) B.L. Turner in B.L. Turner et al., Atlas Vasc. Pl. Texas 7. 2003. *Selinocarpus megaphyllus* (Fowler & B.L. Turner) B.L. Turner. Phytologia 75:242. 1993.

The *Acleisanthes lanceolata* complex consists of obligate gypsophiles distributed in islandlike populations from northern New Mexico through western Texas to east-central Chihuahua. There is an irregular cline of increasing leaf width and less noticeably, perianth size, from north to south, with a more or less abrupt difference evident in populations south of the Mexico-U.S. border. *Acleisanthes lanceolata* var. *lanceolata* has lanceolate to broadly lanceolate leaves (larger leaves 5–18 mm wide), whereas *A. lanceolata* var. *megaphylla* has

ovate to round leaves (larger leaves 12–41 mm wide). In the var. *megaphylla* proportionately broadest leaves occur especially on the basal half of the stem. It is this variation that Fowler and Turner were attempting to circumscribe nomenclaturally when they described the new variety, *Selinocarpus lanceolatus* var. *megaphyllus*. Turner went even further in 1993, elevating the var. *megaphyllus* to species level as *S. megaphyllus* (Fowler & B.L. Turner) B.L. Turner and later (2003) as *Acleisanthes megaphylla* (Fowler & B.L. Turner) B.L. Turner in B.L. Turner et al. He formally recognized intermediate populations in western Texas and eastern Chihuahua as *S. maloneanus* B.L. Turner, reducing it to varietal status again in 2003 as *Acleisanthes lanceolata* var. *maloneana* (B.L. Turner) B.L. Turner. Levin (2002) lists all names in the complex that were available at the time as synonyms of *A. lanceolata*.

For A Flora of the Chihuahua Desert Region we will recognize the extremes of variation in the *Acleisanthes lanceolata* complex, which more or less correlate with geography, as two varieties in *A. lanceolata*, the var. *lanceolata* (which includes *A. lanceolata* var. *maloneana*) and var. *megaphylla*. One collection from the southern part of the range of *A. lanceolata* supports the view that these taxa better represent varieties than species. Within a single population are round-leaved plants, intermediates, and lanceolate-leaved plants, the last uncommon in the population (Mexico, Chihuahua, Mpio. Camargo, 13.6 km W of Camargo on road to Lago Boquilla, on gypsum river terraces, 14 Aug 1974, *Spellenberg and Syvertsen* 3758, CIIDIR, IEB, MEXU, NMC [sheets 46553, 62814], TEX. So that future confusion might be avoided, two replicates of the same collection (3758) were independently prepared and accessioned at NMC several years apart, the first with the label stating distance of the site from Camargo as 8.5 miles rather than 13.6 km, the second stating the distance in kilometers).

Jim Henrickson relates to us in his review of this manuscript that the stated type locality of *Selinocarpus lanceolatus* var. *megaphyllus* is problematic. He states that Estacion Moreon is correctly Estacion Morrión. There is no Sierra de Monillas, but there is the Sierra Morrión (misspelled on Henrickson's gazetteer map [Henrickson & Straw 1976] as Sierra Gorrion). He writes in his review, "But there is a lake behind Presa Luis. L. León along the Río Conchos and there is a road to the south end of the lake about 15 mi SW of Est. Morrión and that is probably the type locality.

Acleisanthes somalensis (Chiov.) R.A. Levin: To trace the interpretation of *Commicarpus somalensis* (Chiov.) Lebrun & Stork (1989) requires access to literature difficult to obtain by those working in the Chihuahuan Desert region. We review the situation here. Lebrun and Stork, in making their new combination, examined a photograph in Chiovenda (1929, Tab. XXXIII, fig. 1) that was labeled as the type of *Selinocarpus somalensis*. The type of that taxon, however, is actually pictured in the adjacent photo (Fig. 2), labeled as *Boerhaavia*

reniformis [now considered *Commicarpus reniformis* (Chiov.) Cufod.]. The captions were switched in Chiovenda's work, as pointed out by Thulin (1994, p. 1111), misleading Lebrun and Stork. The descriptions are valid and the type is indeed a *Selinocarpus* [now as *Acleisanthes somalensis*], as indicated by the molecular data of Levin (2000).

Abronia umbellata* var. *breviflora (Standley) L.A. Galloway, comb. et stat. nov.
 BASIONYM: *Abronia breviflora* Standley, Contr. U.S. Natl. Herb. 12:312, plate 30. 1909. TYPE: U.S.A. CALIFORNIA. MENDOCINO CO.: Mendocino, Jun 1989, H.E. Brown 833 (HOLOTYPE: US, not seen; ISOTYPE: MO!).

With little exception, the rank of variety has been used for infraspecific taxa in the Nyctaginaceae. The Flora of North America North of Mexico project requires that all infraspecific taxa within a generic treatment be at the same rank. In *Abronia*, and the Nyctaginaceae in general, the rank of variety has been most used and to continue to use rank results in the least nomenclatural disturbance. One transfer from subspecies to variety is necessary. This new combination makes the FNA *Abronia* treatment consistent, replacing *Abronia umbellata* subsp. *breviflora* (Standl.) Munz (Aliso 4:90. 1958).

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